



Emerald Pharmaceuticals Redmond, Washington

Throughout the United States Emerald Pharmaceuticals in Redmond, Washington can accurately be described as an unusual business. What gives it this distinction and what does it do? It provides chemical outsourcing services for the pharmaceutical, veterinary, nutraceutical, and fine chemical industries. It is one of three such companies on the West Coast,

one of six west of the Mississippi, one of 50 in North America, and one of 700 throughout the world. It is also a prime example of a successful small business that received financing from a Small Business Investment Company.

Emerald Pharmaceuticals was formed in July 2001 when it purchased the pharmaceutical manufacturing assets of ProCyt Corporation and hired several key management and operations personnel. Emerald's management team reads like a who's-who in the pharmaceutical and biotechnology fields. At its head is Michael Maloney who serves as President and CEO of Emerald. He has 26 years of experience in Food and Drug Administration-regulated medical products. Its COO, Robert Mackey, has more than 29 years of experience directing FDA and European regulated operations in multiple facilities for therapeutic, diagnostic, medical device and genomic products.



Emerald specializes in outsourcing services, including early stage process development and scale-up of active pharmaceutical ingredients (API) and intermediaries, as well as small-scale commercial production. Approximately 400 companies in the United States find these services vital to their success. As defined by the Food and Drug Administration, scale-up refers to higher quality and higher quantity. Small commercial scale production is defined as less than five metric tons.

"Scaling up is not as easy as increasing a pie recipe, for example," said Michael Maloney. "Chemical reactions are different at different scales."

Pressures from patent expirations, growing research and development costs, competition, and government pricing have forced the pharmaceutical industry to rely on outsourcing

services for drug development activities. The industry has increasingly focused its resources and internal efforts on new drug discovery, marketing, and sales.

Maloney says approximately 20% of drug companies' research and development budget is spent on outsourcing services, largely in development and production of early stage new drug candidates.

"Pharmaceutical companies want to outsource so they don't need personnel and facilities," said Maloney. "European companies have been doing this for almost 20 years." He said the total value of the custom pharmaceutical outsourcing industry is about \$6 billion, or approximately 12% of the total, complex-molecule manufacturing expenditures. The industry's average 14-year research period and average expenditure of \$800 million per drug, and a 30% success rate help explain Maloney's "cautious optimism."

Maloney and his management team are grateful to the U.S. Small Business Administration for helping get their business off the ground. Prohibited by law from investing directly in companies, the SBA licenses and regulate Small Business Investment Companies. SBICs are privately owned and managed investment firms that use their own capital, plus funds borrowed at favorable rates with an SBA guarantee, to make venture capital investments in small businesses.

As an example of this as it pertains to Emerald Pharmaceuticals, Advanced Materials Technology (ATM Capital), a Dallas-based investment firm that is an SBA-licensed SBIC, purchased \$1.1 million equity in Emerald and in return received a limited partnership interest.



In 2002, SBICs made more than 4,000 investments in almost 2,000 different small businesses. Approximately 60 percent of the venture capital deals in the United States during the first six months of calendar year 2002 were done by licensed SBICs participating in the SBA's venture capital program. In 2002, SBA licensed 41 new SBICs with a combined private capital of about 800 million. At the end of 2002 the program had 446 licensees with total committed capital resources amounting to almost \$16.4 billion.

"We are happy and honored to be able to do what we do with SBIC financial assistance," said Maloney. "SBA made the difference." "We did not know the dot com bust and 9-11 were going to occur when Emerald Pharmaceuticals was established. But ATM Capital SBIC backed us and stood behind us. It kept us going."

“SBICs are a good blend between the private sector and the government,” added Robert Mackey, Emerald Pharmaceuticals’ Chief Operating Officer. “ATM Capital’s funding has allowed Emerald Pharmaceuticals to provide sustainability for growing companies that need our services.”

Maloney believes that to the extent companies like Emerald do a good job, they lower the price of drugs and reduce the time to market. Wayne Rebich, Acting Vice President of Finance for Emerald Pharmaceuticals, said, “To the extent that SBA helps companies like Emerald, it benefits the public by reducing the price of drugs for everyone. Seventeen employees and their families, the local economy, and the tax base have benefited.”